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| APPLICATION NO.                                                                       | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 09/911,811                                                                            | 07/24/2001  | Ulrich Hetzer        | P01,0236            | 6272             |
| 26574                                                                                 | 7590        | 05/05/2005           | EXAMINER            |                  |
| SCHIFF HARDIN, LLP<br>PATENT DEPARTMENT<br>6600 SEARS TOWER<br>CHICAGO, IL 60606-6473 |             |                      | LIANG, LEONARD S    |                  |
|                                                                                       |             |                      | ART UNIT            | PAPER NUMBER     |
|                                                                                       |             |                      | 2853                |                  |

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

|                              |                                      |                                      |  |
|------------------------------|--------------------------------------|--------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/911,811 | <b>Applicant(s)</b><br>HETZER ET AL. |  |
|                              | <b>Examiner</b><br>Leonard S. Liang  | <b>Art Unit</b><br>2853              |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 13-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

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## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of claims 1-12 in the reply filed on 05/06/04 is acknowledged. Claims 13-23 are hereby withdrawn from consideration. In the reply filed on 11/01/04, the applicant notes that even though claims 13-23 were previously withdrawn from consideration, the examiner still examined every claim. Actually, only claims 1-12 were examined. However, there was a typo in the first line of the 103 rejection that listed claims 13-17, 20-22, and 24 as being rejected as well, though no rejection for these claims showed up in the body of the rejection. The examiner apologizes for any confusion that may have been caused. Claims 13-23 remain withdrawn from consideration.

### ***Specification and Drawings***

The lengthy specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and drawings.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

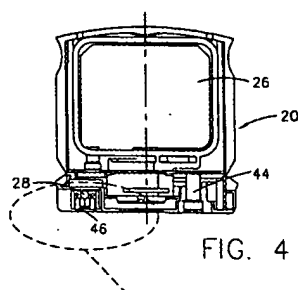
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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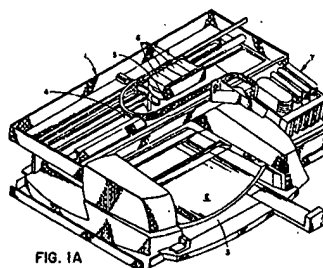
Claims 1-4, 6-8, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al (US Pat 5812156) in view of Barton (EP Pat 0668165A2).

Bullock et al discloses:

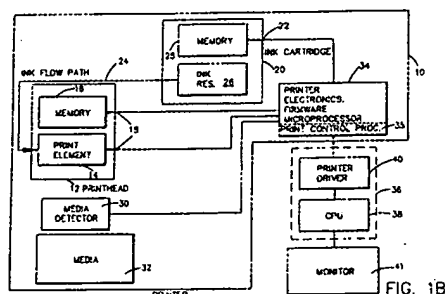
- {claim 1} An ink cartridge (figure 4, reference 20)



having an ink jet printhead (figure 1A, reference 6)



and a drive unit (figure 1B, reference 40)



connected to the ink jet printhead for heating, measuring a temperature of, and driving the ink jet printhead (column 4, lines 1-13); control unit (figure 1B, reference 38); first and second memory areas (abstract; column 3, lines 1-44;

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column 4, lines 14-67; ink supply value, drop volume parameter, temperature sense resistor calibration data, firing energy parameters, and print mode coefficients are examples of warm-up data)

- {claim 2} second memory (figure 1B, reference 28; column 4, lines 14-67)
- {claim 3} serial number (column 4, line 41)
- {claim 4} manufacture identification number (column 4, line 25)
- {claim 6} the memory is disposed on the ink cartridge and wherein the second memory area additionally contains identification data uniquely identifying the ink cartridge and data representing further predetermined conditions allocated to the identification data, and wherein the control unit is programmed to interrogate the memory to execute the data followup employing the further predetermined conditions allocated to the identification data (figure 1B, 4, reference 28; column 2, lines 27-32; column 4, lines 1-67)
- {claim 7} serial number (column 4, line 41)
- {claim 8} manufacture identification number (column 4, line 25)
- {claim 10} the drive unit includes a sensor for measuring the temperature of the ink jet printhead, the sensor generating sensor data representing the temperature, and wherein the control unit is programmed to interrogate the sensor data via the drive unit for determining the warmup data (column 4, lines 4-17; column 6, lines 49-52)
- {claim 11} user interface (figure 1B, reference 38; column 2, lines 14-17; column 3, lines 1-8; The teaching “When a printing operation is initiated...” naturally

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suggests user interface); communications link (figure 1B, reference 38; column 3, lines 1-8; column 4, user is identified by CPU as one who initiates print operation and installs cartridge)

- {claim 12} date clock module (column 4, lines 36-38, 49, 57; column 5, lines 2-4; manufacture day/year and usage time naturally suggests date clock module)

Bullock et al differs from the claimed invention in that it does not disclose:

- {claim 1} a sensor connected to the drive unit for measurement of ambient temperature; the control unit being programmed to implement at least one measurement of the ambient temperature with the sensor, and to determine warmup data for a fast start for a current warmup cycle dependent upon the ambient temperature and dependent on the at least one predetermined condition

Barton discloses:

- {claim 1} A sensor connected to a drive unit for measurement of ambient temperature, where the sensor works with printer memory

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the ambient temperature sensor of Barton into the invention of Bullock et al. The motivation for the skilled artisan in doing so is to gain the benefit of selecting the printer's optimal operational subroutines (column 2, lines 42-45). The combination naturally suggests the control unit being programmed to implement at least one measurement of the ambient temperature with the sensor, and to determine warmup data for a fast start for a current warmup cycle dependent upon the ambient temperature and dependent on the at least one predetermined condition. Though Bullock et al does not explicitly use the term "warm-up", it

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should be clear that Bullock et al naturally implies an arrangement for data follow-up for a warmup cycle of an ink jet printhead. This is demonstrated in Bullock et al by the initiation of a printing operation (column 3, lines 1-2) as well as the disclosure that "The contents of memories 16 and 28 will be considered in detail below and, as will be understood, are instrumental in enabling real time control of ink jet printer 1 to produce high quality printed media." The term "real time control" implies that the memory parameters of Bullock et al are used throughout the printing operation, such as during the printing initiation (i.e. warm-up). Furthermore, Bullock et al discloses the use of memory when an ink cartridge is replaced, and it is well known to one of ordinary skill in the art that a printer needs to be warmed up and calibrated to its new cartridge before it can successfully print. Finally, Bullock et al discloses temperature sense resistor calibration data and firing energy parameters as examples of memory parameters. It is well known to one of ordinary skill in the art that these parameters are crucial for a warm-up operation, since a warm-up operation usually involves the heating of the printhead (as evidenced by Smith et al {US Pat 4791435}; Barbour et al {US Pat 6435668}, and Fuse {US Pat 5673071}).

Claims 5 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Bullock et al (US Pat 5812156) in view of Barton, as applied to claim 1, and further in view of Berson (US Pat 5513563).

Bullock et al, as modified, discloses:

- {claims 5 and 9} serial number and manufacture identification number (column 4, lines 25, 41)

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Bullock et al, as modified, differs from the claimed invention in that it does not disclose:

- {claims 5 and 9} the control unit comprises a security module for forming a code word by encryption of the serial number and the manufacture identification number, and wherein the control unit stores the code word in the second memory as at least a portion of the identification data

Berson discloses:

- encrypting serial number (column 3, lines 18-22)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Berson into the invention of modified Bullock et al so that serial numbers could be encrypted. The motivation for the skilled artisan in doing so is to gain the benefit of providing verifiable security (column 1, lines 46-47). The combination naturally suggests encrypting manufacture identification numbers and the control unit storing the code word in the second memory as at least a portion of the identification data.

### *Response to Arguments*

Applicant's arguments filed 11/01/04 have been fully considered but they are not persuasive.

The basis of the applicant's arguments are that "Neither the Bullock et al., nor the Barton reference, however, disclose or suggest using an ambient temperature measurement in the context of a warm-up cycle." However, this is not true. Barton clearly discloses that ambient temperature is detected and adjusted **before** actual printing occurs (figure 1, reference 14, 28). This qualifies as a warm-up operation. All Bullock fails to disclose is a sensor that measures



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ambient temperature and a control unit that determines warm-up data dependent on the ambient temperature. Bullock in view of Barton discloses this. The applicant has tried to argue that it is not proper to replace the TSR of Bullock with the ambient temperature sensor of Barton because the algorithm for the TSR of Bullock would not properly function with the ambient temperature sensor of Barton. However, this is a moot point because Barton clearly shows an ambient temperature sensor that has its own set of controls to allow it to function in the context of a warm-up cycle. It's naturally suggested that the combination of Bullock in view of Barton could successfully port over the ambient temperature sensor controller along with the ambient temperature sensor itself. Thus, the applicant's arguments in regards to the routines and algorithms of Bullock et al are rendered moot. Furthermore, the examiner would like to remind the applicant that it is the claimed invention that is examined. There is no disclosure of any sort of algorithm in the claimed invention, so it is not proper for the applicant to read in limitations of an algorithm into the claimed invention.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Stephen D. Meier  
Primary Examiner